Australian Government

UEERA0061 Produce HVAC/R system design drawings

Release: 1

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Modification History

Release 1. This is the first release of this unit of competency in the UEE Electrotechnology Training Package.

Application

This unit involves the skills and knowledge required to produce heating, ventilation and air conditioning/refrigeration (HVAC/R) system design drawings.

It includes applying safe working practices, interpreting technical data and specifications, applying knowledge of HVAC/R systems design drawing protocols, using appropriate drawing tools and documenting design.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

UEERA0001 Analyse the operation of HVAC air and hydronic systems

UEERA0002 Analyse the psychrometric performance of HVAC/R systems

UEERA0003 Analyse the thermodynamic performance of HVAC/R systems

or

UEERA0094 Verify functionality and compliance of refrigeration and air conditioning installations

UEECD0007 Apply work health and safety regulations, codes and practices in the workplace

UEECD0019 Fabricate, assemble and dismantle utilities industry components

UEECD0020 Fix and secure electrotechnology equipment

UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications

UEECD0016 Document and apply measures to control WHS risks associated with electrotechnology work

UEERA0059 Prepare and connect refrigerant tubing and fittings

UEERA0036 Establish the basic operating conditions of vapour compression systems

UEERA0035 Establish the basic operating conditions of air conditioning systems

UEERA0050 Install refrigerant pipe work, flow controls and accessories

UEERA0081 Select refrigerant piping, accessories and associated controls

UEERA0031 Diagnose and rectify faults in air conditioning and refrigeration control systems

UEERA0092 Solve problems in low voltage refrigeration and air conditioning circuits

UEERL0005 Locate and rectify faults in low voltage (LV) electrical equipment using set procedures

UEERL0004 Disconnect - reconnect electrical equipment connected to low voltage (LV) installation wiring

UEERL0001 Attach cords and plugs to electrical equipment for connection to a single phase 230 Volt supply

UEERL0002 Attach cords, cables and plugs to electrical equipment for connection to 1000 V a.c. or 1500 V d.c.

Competency Field

Refrigeration and air-conditioning

Unit Sector

Electrotechnology

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Prepare to produce HVAC/R design drawings	**1.1** Work health and safety (WHS)/occupational health and safety (OHS) requirements and workplace procedures for a given work area are identified, obtained and applied
	1.2 WHS/OHS risk control measures and workplace procedures in preparation for the work are followed
	1.3 Scope of work is determined from project specifications and/or discussions with relevant person/s
	1.4 Relevant person/s is consulted to ensure the work is coordinated effectively with others involved on the worksite
	1.5 Software tools and equipment required for work are obtained in accordance with workplace procedures
2 Produce HVAC/R design drawings	**2.1** WHS/OHS risk control measures and workplace procedures for carrying out the work are followed

	2.2	Relevant design drawings and layouts required are determined in accordance with project specifications
	2.3	Technical data of system components is interpreted to determine parameters for inclusion in accordance with project specifications
	2.4	Relevant software tools are used to produce drawings in accordance with project specifications
	2.5	Drawings are checked for accuracy in accordance with project specifications and workplace procedures
	2.6	Methods for dealing with unplanned events are conducted in accordance with workplace procedures and safe work practices
3 Complete and report HVAC/R design drawings	**3.1**	Completed drawings are submitted to relevant person/s for accuracy in accordance with project specifications and workplace procedures
	3.2	Alterations, additions and/or corrective instructions are followed and drawings are re-submitted for final approval in accordance with project specifications and workplace procedures
	3.3	Copies of completed drawings are filed in accordance with workplace procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEE Electrotechnology Training Package Companion Volume Implementation Guide.

producing design drawings must include at least the following:	• two different HVAC/R projects
servicing and repairing secondary refrigeration systems must include at least two	• chilled water or glycol/brine system • condenser water system • defrost system

of the following system types:	• heat recovery system • thermal storage system
servicing and repairing secondary refrigeration systems must include the following components:	• cycling controls • heat exchangers • primary refrigerant flow controls • pumps • safety controls • secondary refrigerant flow controls • secondary refrigerant piping, insulation and associated equipment

Unit Mapping Information

This unit replaces and is equivalent to UEENEEJ128A Produce HVAC/R system design drawings.

Links

Companion Volume implementation guides are found in VETNet - - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b8a8f136-5421-4ce1-92e0-2b50341431b6